

# INTRODUCTION

COUNTY OF LEHIGH

SPILLMAN FARMER ARCHITECTS  
MASONRY PRESERVATION SERVICES  
KEAST & HOOD STRUCTURAL ENGINEERS



SPILLMAN FARMER ARCHITECTS  
MOHICAN BUILDING RENOVATION  
LAFAYETTE COLLEGE, EASTON, PA



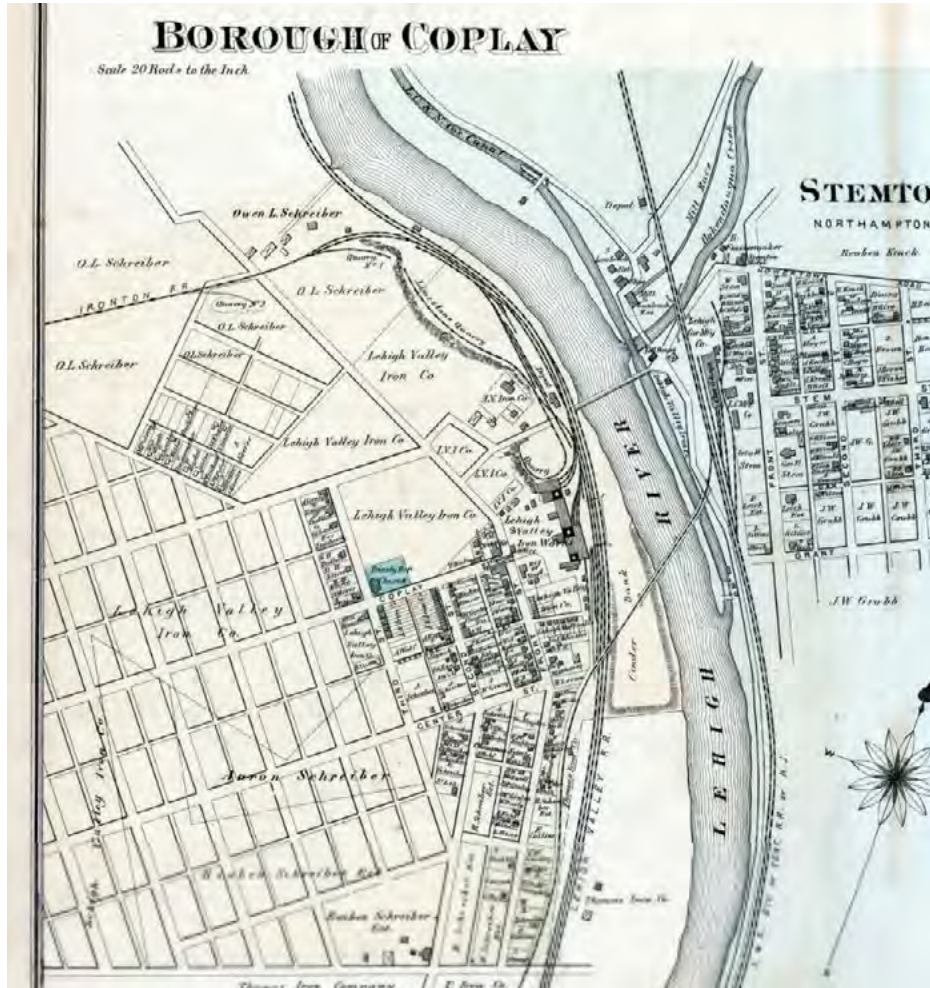
MASONRY PRESERVATION SERVICES  
UNITED STATES PENITENTIARY  
LEWISBURG, PA



KEAST & HOOD STRUCTURAL ENGINEERS  
SCRANTON IRON FURNACE

## SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA

# HISTORY



# SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA

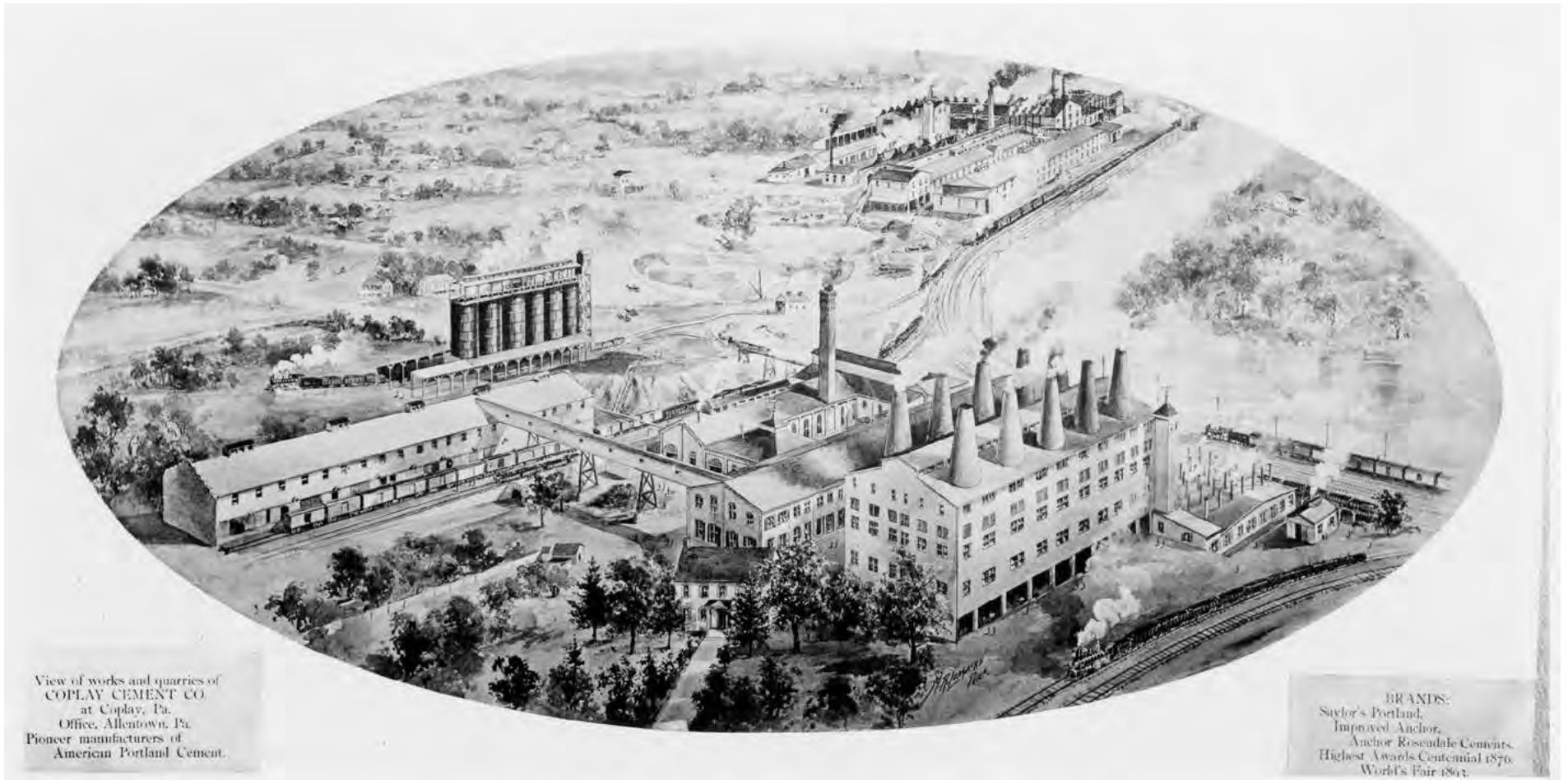
# HISTORY



**SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA**



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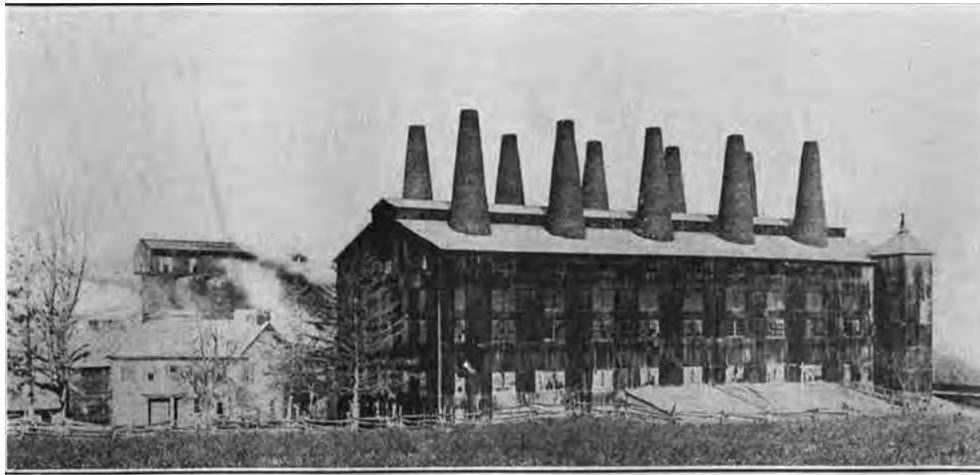


Plate XI A. Old Dietsch Kilns of the Coplay Cement Company, at Coplay.

**SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA**



# HISTORY

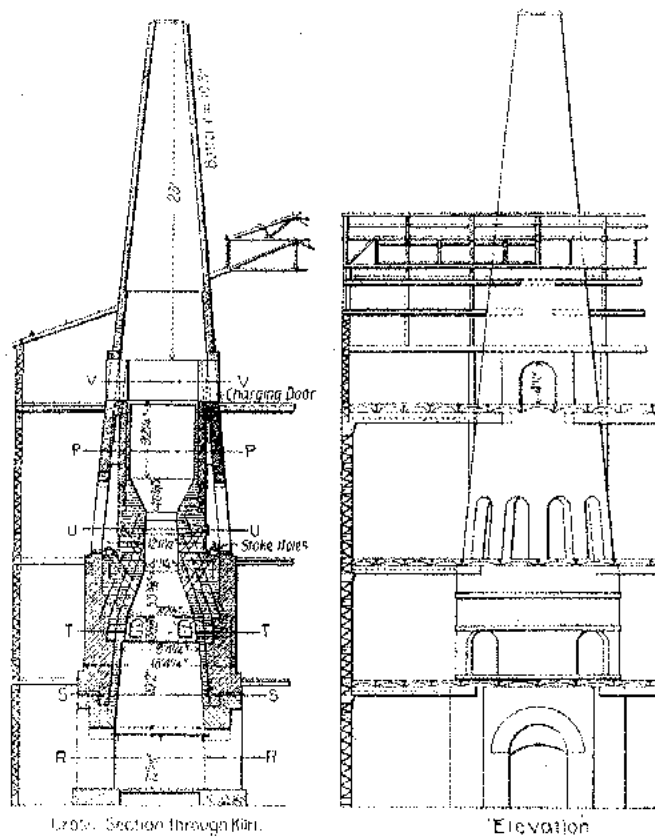


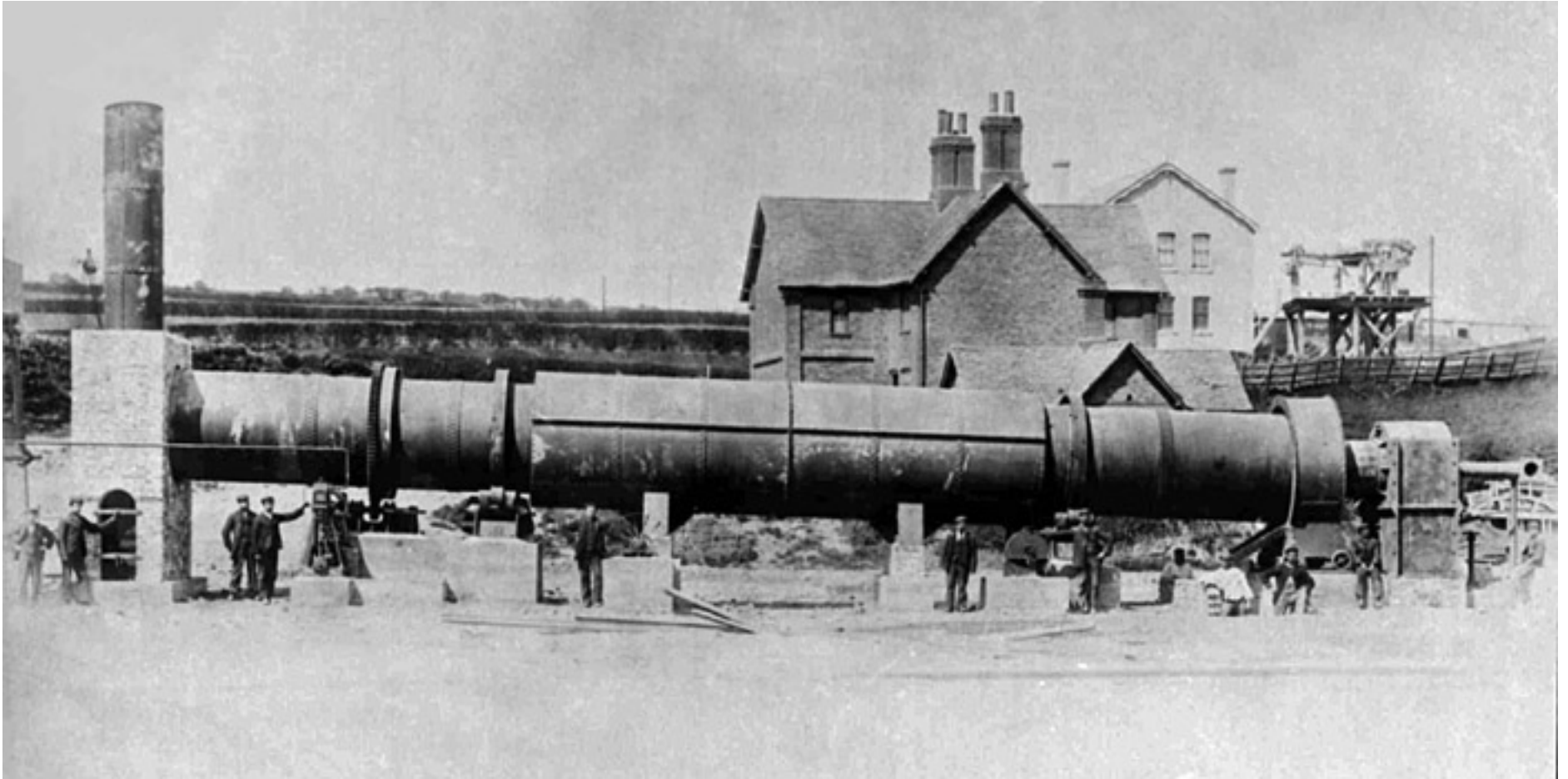
Figure 5.—The Continuous Kiln.



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# OBSOLETE



**SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA**

# IDENTITY



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# IDENTITY



**SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA**

# CONDITIONS



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# CONDITIONS



**Photograph 11:**

Open mortar joints  
and displaced  
brick.

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# CONDITIONS



**Photograph 12:**

The mortar joints are so deteriorated brick is coming loose from the wall.

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# CONDITIONS



**Photograph 14:**

Extensive brick displacement will eventually lead to collapse of a large section of the brick veneer.

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# CONDITIONS



**Photograph 13:**

The brick veneer is separating from the back-up wall.

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# CONDITIONS



**Photograph 15:**

Large section of the brick veneer has come loose and fallen to the ground.

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# CONDITIONS



**Photograph 16:**  
The loss of the brick veneer creates large openings for bulk rain water to enter the wall assembly, increasing the rate of deterioration.

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# CONDITIONS



**Photograph 17:**  
Complete failure of  
the brick veneer.

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# CONDITIONS



**Photograph 18:**

The brick veneer is pulling away from the back-up wall. Note the cracked headers where the brick came loose and fell to the ground.

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# CONDITIONS



**Photograph 25:**  
The embedded steel beams still remaining are heavily corroded and causing displacement of the surrounding masonry.

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# CONDITIONS



**Photograph 26:**  
The embedded  
steel beam was  
heavily corroded.

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# CONDITIONS



**Photograph 27:**  
The expansion of the steel as it corrodes puts stress on the surrounding masonry. This steel beam has expanded to be multiple times larger than it was originally.

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# CONDITIONS



**Photograph 28:**

Another heavily corroded beam. Note that new brick was installed at this location, but without addressing the steel the deterioration continued.

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# CONDITIONS



**Photograph 21:**  
Plant growth is  
present on each of  
the kilns.

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# CONDITIONS



**Photograph 22:**  
The roots of the plants take hold in the missing mortar joints and expand as they grow.

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# CONDITIONS



**Photograph 23:**  
As the plants get bigger the masonry deterioration surrounding the areas increases.

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# CONDITIONS



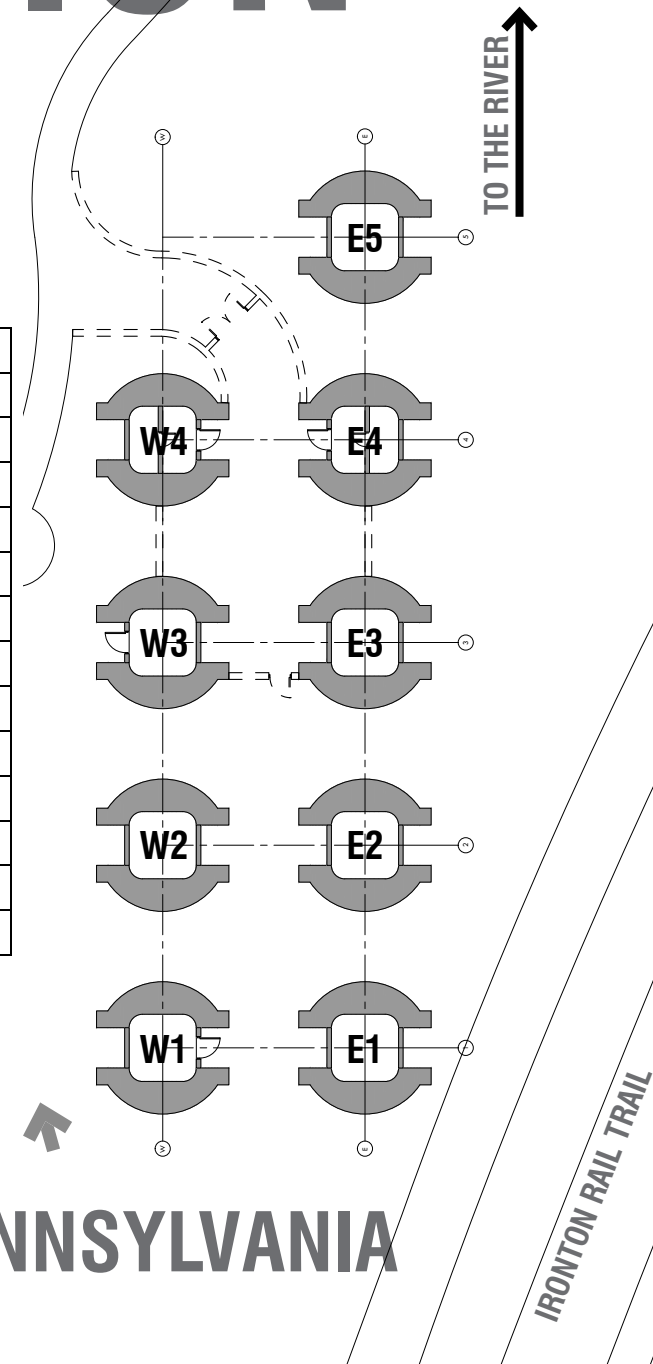
**Photograph 24:**  
Eventually the roots get large enough to cause displacement of the surrounding masonry.

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# PRESERVATION

Structural Concern	Kiln Number (listed best to worst)								
	W1	E1	E2	W3	E4	E5	E3	W2	W4
Open Joints	X	X	X	X	X	X	X	X	X
Plant Growth	X	X	X	X	X	X	X	X	X
Embedded Corroded Steel	X	X	X	X	X	X	X	X	X
Cracks in Brick Veneer		X	X	X	X	X	X	X	X
Bulging Brick Veneer			X	X	X	X	X	X	X
Loose Metal Flashing	X	X	X	X	X	X	X	X	X
Deteriorated Cement Parging				X	X	X	X	X	X
Delaminating Brick Veneer				X	X	X	X	X	X
Tree Growth						X	X		
Brick Veneer Collapse							X	X	X
Brick Wall Collapse								X	X

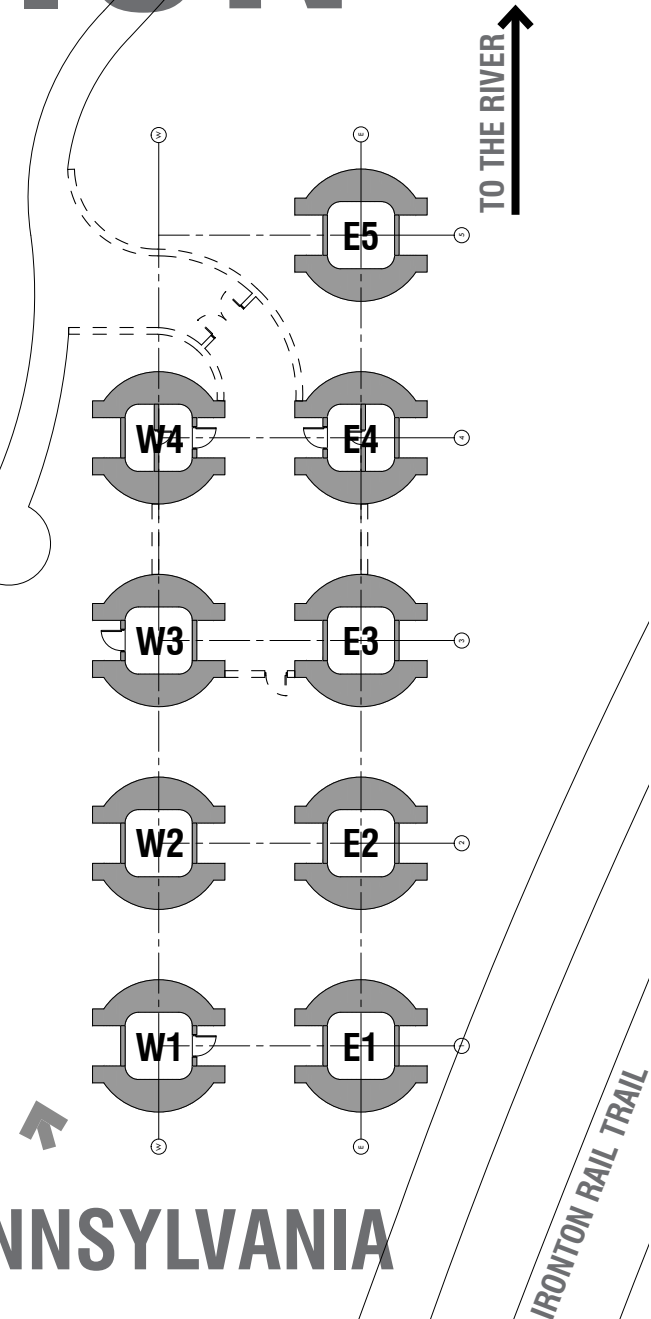


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# PRESERVATION

KILN STABILIZATION:  
LEAST EXPENSIVE TO MOST EXPENSIVE

W1  
E1  
E2  
W3  
E4  
E5  
E3  
W4  
W2



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# PRESERVATION

SECURE SITE

PARTIAL DEMOLITION

STABILIZE ALL KILNS

REMOVE MODERN ADDITIONS

PROTECTIVE STRUCTURE



# PRESERVATION

## PIT AND QUARRY: THE EXTRACTIVE LANDSCAPE OF PENNSYLVANIA'S LEHIGH VALLEY



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# QUESTIONS



**SAYLOR CEMENT KILNS COPLAY, PENNSYLVANIA**